

## PATENT ABSTRACTS OF JAPAN

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<NTT>

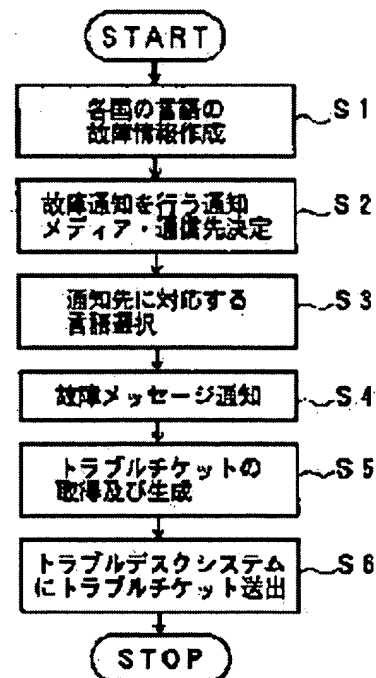
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KAKITA HIROYUKI  
TANAKA KAZUTOSHI  
KUDO AKIHIKO(54) UNIFIED MESSAGE REPORTING METHOD, UNIFIED MESSAGE SYSTEM AND STORAGE  
MEDIUM STORING UNIFIED MESSAGE NOTICE PROGRAM

(57)Abstract:

PROBLEM TO BE SOLVED: To enable even a small number of maintenance persons to report the failure of a network to be a monitoring object without omission using various reporting media and in a plurality of languages.

SOLUTION: In a unified message system server, failure information in the languages of respective countries in the world is prepared (S1) on the basis of alarm information from a network managing system(NMS) while utilizing constituent equipment information for each user prepared from user information. Various reporting media for providing the failure to the maintenance person with the prepared failure information in the languages of various countries in the world are selected and the destination to report is determined (S2). The language corresponding to the destination to report determined from the failure information is selected (S3). Using the selected language, a failure message corresponding to the selected reporting medium is prepared and reported to the selected report destination (S4). A trouble ticket issued in a terminal to which the failure information is reported is acquired and a trouble ticket to be sent to a help desk system is prepared (S5) and sent out (S6).



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decision of rejection]

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DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the storage which stored the uni-FAIDO message notification approach, the uni-FAIDO message system, and the uni-FAIDO message notification program. You make it cooperate with NMS (network management system) which is performing network administration in the communication network in a company, or the Internet especially. When failure occurs to the network used as the candidate for a monitor, a maintenance man is certainly notified of failure through various notice media. If a notice is received, a trouble ticket can be immediately reissued to a help desk system. A prompt failure action is related with the storage which stored the uni-FAIDO message notification approach, uni-FAIDO message system, and uni-FAIDO message notification program in the service management which becomes possible.

[0002]

[Description of the Prior Art] Drawing 9 shows the relation between NMS in a Prior art, and a maintenance man. If failure occurs in the network 100 for a monitor conventionally, NMS200 which manages the network 100 concerned will detect failure of the network 100 concerned, and will display an alarm on an NMS terminal. By seeing the failure information currently displayed on the NMS terminal concerned, to the help desk system 500, a maintenance man reissues the trouble ticket 510 and sends out a trouble ticket.

[0003]

[Problem(s) to be Solved by the Invention] However, since the maintenance man who manages NMS as the above-mentioned conventional system shows to drawing 9 cannot immediately notice failure having occurred and cannot grasp failure immediately even if failure occurs to the network used as the candidate for a monitor, NMS detects it and an alarm is displayed on the terminal of NMS, he has the problem that the management to failure becomes slow. When there is no maintenance man in office by the Nighttime band, going out, etc. especially, since other business is performed even if it is in office, there is a problem that the situation of NMS cannot be grasped immediately.

[0004] Moreover, when failure correspondence is performed, it is failure of a high order network and a trouble ticket needs to be reissued to a help desk system, it must go to a location with the terminal of relevance. Furthermore, when the network used as the candidate for a monitor is straddling globally and a trouble ticket is reissued to a help desk system, there is a problem that it must correspond in the language of each country.

[0005] This invention enables the notice of failure of the network where it was made in view of the above-mentioned point, and the maintenance man of the small number also becomes a candidate for a monitor certainly with various notice media and two or more language, and minds various notice media. The maintenance man who received the notice of failure It aims at offering the storage which stored in the help desk system immediately the uni-FAIDO message notification approach which can create a trouble ticket, the uni-FAIDO message system, and the uni-FAIDO message notification program.

[0006]

[Means for Solving the Problem] Drawing 1 is drawing for explaining the principle of this invention. In the message notification approach YUNIFA for this invention (claim 1) to perform failure correspondence by cooperation with NMS which performs network administration -- the id -- In a uni-FAIDO message system server, the configuration equipment information for every user created from User Information is used based on the alarm information from NMS. While choosing various notice media which create the failure information of the language of every country in the

world (step 1), and perform the notice of failure for the failure information of the language of created every country in the world to a maintenance man The language corresponding to the notice place which determined the notice place (step 2) and was determined from the failure information of the language of created every country in the world is chosen (step 3). While acquiring the trouble ticket reissued in the terminal to which the failure message corresponding to the notice media chosen as the selected notice place was created and notified using the selected language (step 4), and failure information was notified The trouble ticket sent out to a help desk system is created (step 5), and this trouble ticket is sent out to this help desk system (step 6).

[0007] As notice media, when a telephone is chosen, this invention (claim 2) synthesizes voice using the selected language, and notifies a failure message to the notice place which was telephoned and was chosen. In case this invention (claim 3) creates failure information, it makes the alarm information from NMS map with the configuration equipment information for every user, and creates the failure information which clarified in the owner and which location of the equipment which has generated this alarm information it is installed, and configuration equipment information.

[0008] In case this invention (claim 4) chooses notice media, it chooses the notice media containing the notice place of the failure message to notify, a telephone and a client, mail, FAX, and a pager based on the configuration equipment information for every user created from User Information. In case this invention (claim 5) chooses language, it chooses the language corresponding to the notice place to choose from the failure information of the language of created every country in the world.

[0009] This invention (claim 6) notifies failure information to this client, when the notice media chosen based on the failure information of the selected language are the message indicators to a client, in case a failure message is notified. This invention (claim 7) is controlled to enable listening of a failure message repeatedly by the depression of a push button, or it will read out this synthesized speech file if call origination of the synthesized speech file from which it synthesized voice based on the created failure information is carried out to the telephone number which is a notice place and there is a response when selected notice media are telephones.

[0010] When reissuing the trouble ticket to a help desk system and it is notified to a notice place by selected notice media, if this invention (claim 8) has the notice of failure according to these notice media, it will create the trouble ticket to a help desk system immediately.

[0011] Drawing 2 is the principle block diagram of this invention. It is a message system. YUNIFA for this invention (claim 9) to perform failure correspondence by cooperation with NMS which performs network administration -- the id -- Based on the alarm information from NMS, the configuration equipment information for every user created from User Information is used. While choosing various notice media which perform the notice of failure for the failure information of the language of every country in the world created with a failure information creation means 330 to create the failure information of the language of every country in the world, and the failure information creation means 330 to a maintenance man A language selection means 350 to choose the language corresponding to the notice place determined from the failure information of the language of every country in the world created with a notice media selection means 360 to determine a notice place, and the failure information creation means 330, message creation - Be. the failure message corresponding to the notice media chosen as the selected notice place is created and notified using the language chosen with the language selection means 350 -- with the notice means 370 While acquiring the trouble ticket reissued in the terminal to which failure information was notified The trouble ticket sent out to a help desk system is created, and it has the uni-FAIDO message system server 300 which has a trouble ticket reissue-of-vouchers means 390 to send out this trouble ticket to this help desk system.

[0012] When a telephone is chosen as notice media in the notice media selection means 360, this invention (claim 10) has a speech synthesis means to synthesize voice using the selected language, and includes a means notify the failure message from which the notice place which was telephoned and was chosen synthesized voice with the speech synthesis means, in message creation / notice means 370.

[0013] In the failure information creation means 330, this invention (claim 11) makes the alarm information from NMS map with the configuration equipment information for every user, and includes a means to create the failure information which clarified in the owner and which location of the equipment which has generated this alarm information it is installed, and configuration equipment information. This invention (claim 12) includes the notice place of the failure message to notify, a telephone and a client, mail, FAX, and a means to choose the notice media containing a pager, in the notice media selection means 360 based on the configuration equipment information for

every user created from User Information.

[0014] This invention (claim 13) includes a means to choose the language corresponding to the notice place to choose from the failure information of the language of created every country in the world, in the language selection means 350. In message creation / notice means 370, this invention (claim 14) includes a means to notify failure information to this client, when the notice media chosen based on the failure information of the selected language are the message indicators to a client.

[0015] Or it will read out this synthesized speech file if this invention (claim 15) carries out call origination of the synthesized speech file from which it synthesized voice based on the created failure information to the telephone number which is a notice place and has a response when selected notice media are telephones in the notice media selection means 360, it contains the telephone control means controlled to enable listening of a failure message repeatedly by the depression of a push button.

[0016] In the trouble ticket reissue-of-vouchers means 390, when are notified to a notice place by the notice media chosen in the notice media selection means 360, and this invention (claim 16) has the notice of failure according to these notice media, it includes immediately a trouble ticket creation means to create the trouble ticket to a help desk system. It is the storage which stored the message notification program. YUNIFA for this invention (claim 17) to perform failure correspondence by cooperation with NMS which performs network administration -- the id -- YUNIFA of a message system -- the id -- YUNIFA carried in a message server -- the id -- Based on the alarm information from NMS, the configuration equipment information for every user created from User Information is used. While choosing various notice media which perform the notice of failure for the failure information of the language of every country in the world created in the failure information creation process which creates the failure information of the language of every country in the world, and the failure information creation process to a maintenance man The language selection process which chooses the language corresponding to the notice place determined from the failure information of the language of every country in the world created in the notice media selection process of determining a notice place, and the failure information creation process, Message creation / notice process which notifies a failure message using the notice media chosen as the selected notice place using the language chosen in the language selection process, While acquiring the trouble ticket reissued in the terminal to which failure information was notified, the trouble ticket sent out to a help desk system is created, and it has the trouble ticket reissue-of-vouchers process which sends out this trouble ticket to this help desk system.

[0017] When a telephone is chosen as notice media in a notice media selection process, this invention (claim 18) has the speech synthesis process which synthesizes voice using the selected language, and includes the process which notifies the failure message from which the notice place which was telephoned and was chosen synthesized voice in the speech synthesis process in message creation / notice process.

[0018] In a failure information creation process, this invention (claim 19) makes the alarm information from NMS map with the configuration equipment information for every user, and includes the process which creates the failure information which clarified in the owner and which location of the equipment which has generated this alarm information it is installed, and configuration equipment information. This invention (claim 20) includes the process which chooses the notice media containing the notice place of the failure message to notify, a telephone and a client, mail, FAX, and a pager in a notice media selection process based on the configuration equipment information for every user created from User Information.

[0019] This invention (claim 21) includes the process which chooses the language corresponding to the notice place to choose from the failure information of the language of created every country in the world in a language selection process. In message creation / notice process, this invention (claim 22) includes the process which notifies failure information to this client, when the notice media chosen based on the failure information of the selected language are the message indicators to a client.

[0020] Or it will read out this synthesized-speech file if this invention (claim 23) carries out call origination of the synthesized-speech file from which it synthesized voice based on the created failure information to the telephone number which is a notice place and has a response when selected notice media are telephones in a notice media selection process, it contains the telephone control process controlled to enable listening of a failure message repeatedly by the depression of a push button.

[0021] In a trouble ticket reissue-of-vouchers process, when are notified to a notice place by the notice media chosen in the notice media selection process, and this invention (claim 24) has the notice of failure according to these notice

media, it includes immediately the trouble ticket creation process which creates the trouble ticket to a help desk system.

[0022] as mentioned above, in order for a maintenance man not to notice it be failure immediately even if NMS detect network failure, but to cancel the quick point that failure correspondence cannot be carry out, this invention display a failure message on a terminal, when work in other locations of the same network according to a maintenance man situation, be on-site maintenance etc., and when it be in other locations, it become possible [ notify the contents of failure by telephone ].

[0023] Furthermore, the failure information to notify is which device that is in which location concretely, configuration equipment information, such as a concrete owner, can be traced from the information that NMS which had become a problem from the former has emitted the alarm since the information on who an owner is can be specified, such as an IP address, and it becomes possible to create the trouble ticket of a help desk system immediately.

[0024] Moreover, since trouble ticket reissue of vouchers and the notice of failure based on the language of every country in the world by various notice media are performed, even if the network used as the candidate for a monitor is straddling globally, it can respond.

[0025]

[Embodiment of the Invention] Drawing 3 shows the outline configuration of the uni-FAIDO message system of this invention. The system shown in this drawing consists of a network 100, NMS200, the uni-FAIDO message server 300, a client 400, a telephone 450, FAX460, a pager 470, and a help desk system 500.

[0026] Drawing 4 shows the configuration of the uni-FAIDO message system of this invention. The uni-FAIDO message server 300 (it is hereafter described as a server) User Information 310 and the configuration equipment information for every user The configuration equipment information storage section 230 for every user to hold, the failure information creation section 330, the Japanese failure information storage section 240 that memorizes the failure information in Japanese, the English failure information storage section 345 which memorizes the failure information in English, the language selection section 350, the notice media selection section 360, It consists of the message notification creation section 370, the synthesized speech creation section 375, a telephone control section 380, and the trouble ticket reissue-of-vouchers section 390.

[0027] A client 400 has the trouble ticket reissue-of-vouchers section 410. The trouble disc system 500 has the function which acquires the trouble ticket 510. In the system of the above-mentioned configuration, if failure occurs to the network 100 for a monitor, NMS200 will notify alarm information to a server 300.

[0028] The failure information creation section 330 of a server 300 makes the alarm information of IP level from NMS200 map with the configuration equipment information 320 on the configuration equipment information storage section 320 for every user, creates Japanese failure information and English failure information, and holds them in the Japanese failure information storage section 340 and the English failure information storage section 345. Moreover, the notice media selection section 360 performs the notice approach of failure information, for example, the media to notify, (a client 400, a telephone 450, FAX460, pager 470), and a setup of a notice place.

[0029] If the notice place of notice media is decided by the notice media selection section 360, the language selection section 330 will opt for notice language, and will begin the notice preparation of failure by it. When the notice media selection section 360 chooses a client 400 as notice media, the message notification section 370 creates the failure message to the client 400 according to notice language, and a failure message is displayed on the corresponding client 400. Moreover, the message notification section 370 creates the speech synthesis file of the failure message by notice language in the speech synthesis creation section 375, when telephone 450 is chosen as notice media.

[0030] The telephone control section 380 reads out the speech synthesis file which shows the contents of failure, telephoning the telephone number of relevance by the created speech synthesis file. Moreover, the trouble ticket 510 is immediately reissued to the help desk system 500 from various notice media which had the notice of failure by the trouble ticket reissue-of-vouchers section 410 of a client 400, or the trouble ticket reissue-of-vouchers section 390 of a server 300.

[0031] By these, reissue of vouchers of the trouble ticket 510 to the help desk system 500 also becomes easy, and the prompt failure action it is [ action ] the purpose of this invention can be realized.

[0032]

[Example] Hereafter, the example of this invention is explained with a drawing. Hereafter, it explains based on the system configuration of above-mentioned drawing 4. By this example, as notice media which can be chosen, it

considers as a client 400 and a telephone and language explains the example for Japanese and English.

[0033] Drawing 4 shows the configuration and environment of a uni-FAIDO message system. Network administration in IP level is performed from the notice network 100 in a company used as the candidate for a monitor. From NMS200 which is supervising whether failure has occurred to the network The location information on the configuration equipment which collects the alarm information of failure and has been set as the object of failure of the configuration equipment information storage section 320 for every user, The uni-FAIDO message system server 300 which creates failure information based on User Information of the User Information storage section 310 etc., and notifies a maintenance man of failure certainly through various notice media, It telephones from the uni-FAIDO client 400 to which failure is notified as a message from the uni-FAIDO message server 300 to a screen, and the uni-FAIDO message server 300. It consists of help desk systems 500 which reissue and create a trouble ticket from the telephone 450 to which the synthesized speech which shows the contents of failure is read out, and failure is notified, and the uni-FAIDO message client 400 and telephone 450 with which failure was notified.

[0034] Furthermore, a server 300 has the component shown below. The User Information storage section 310 holds User Information which shows the owner of the configuration equipment of the network used as the candidate for a monitor. The configuration equipment information storage section 320 holds the configuration equipment information for every user for the information which shows the location and configuration of the configuration equipment of each network based on User Information 310.

[0035] The failure information creation section 330 creates the failure information which shows the device of which location of which user is failure combining the alarm information collected from NMS. The Japanese failure information storage section 340 holds the failure information of Japanese created from the failure information creation section 330.

[0036] The English failure information storage section 350 holds the failure information of English created from the failure information creation section 330. The notice media selection section 360 shows which maintenance man is notified of failure through which media, when failure occurs based on the configuration equipment information for every user. The language selection section 350 chooses whether the notice language of the failure information chosen from notice media is Japanese, or it is English.

[0037] The message notification creation section 370 creates the failure message for performing the notice of failure on the screen of the language selection section 350 and a client 400. In case the synthesized speech creation section 375 performs the notice of failure to a telephone, it creates the synthesized speech of failure information. When the telephone control section 380 wears from the notice media selection section 360 to the telephone number of the maintenance man of relevance, telephoning and has a near response The synthesized speech of the failure created by the speech synthesis creation section 375 is read out. If there is no response, the next maintenance man's telephone number will be telephoned. Notify failure or A server 300 is telephoned from telephone, and in order to perform hearing current failure information or reissuing the trouble ticket 510 to the help desk system 500 from the telephone 450 which received the notice of failure, the trouble ticket reissue-of-vouchers section 390 is controlled.

[0038] Drawing 5 is the flow chart of the actuation which sets up User Information and configuration equipment information in the network for a monitor of one example on this invention. User Information which first uses the IP address to the devices which constitute the network 100 for a monitor, or those devices etc. is created (step 10). Next, the configuration equipment information for every user which shows the location on which the device information on the monitor network 100 is put more concretely than the created user 310, the name of a device, etc. is created (step 20).

[0039] Next, based on the configuration equipment information on the configuration equipment information storage section 320 for every user, the notice media which show notice places, such as notice media, a maintenance man, etc. when failure occurs, etc. are created in the notice media selection section 360 (step 30). Next, when NMS200 detects failure, in case failure information is created based on those alarm information and the notice of failure is performed to a maintenance man, processing until it chooses notice media and notice language is explained.

[0040] Drawing 6 is a flow chart of operation until the notice media and notice language of the notice of failure of one example of this invention are chosen. First, NMS200 detects failure on the network 100 for a monitor (step 100). Next, the failure information creation section 330 makes creation preparations of failure information based on the configuration equipment information on the configuration equipment information storage section 320 for every user corresponding to them from alarm information, such as an IP address set as the generating situation of the failure

acquired from NMS200, and the object of failure, (SUTEPU 110).

[0041] Next, the failure information creation section 330 creates Japanese failure information and English failure information, and memorizes them in the Japanese failure information storage section 340 and the English failure information storage section 345, respectively (step 120). Next, notice media and notice language are chosen by the notice media selection section 360 which the configuration equipment information on the configuration equipment information storage section 320 for every corresponding user shows (step 140 - step 180).

[0042] Next, notice processing in case the notice media chosen by the notice media section 360 are clients 400, and reissue of vouchers of the trouble ticket 510 from the notice place client 400 are explained. Drawing 7 is the flow chart of actuation in case the notice media chosen by the notice media selection section of one example of this invention are clients.

[0043] More nearly first than the failure information of the failure information storage sections 340 and 345 corresponding to each, when the notice media chosen by the notice media selection section 360 are clients 400, the message notification section 370 creates the informative message of failure with notice language (steps 210 and 310). Next, the failure message of the language which corresponds to the client 400 of the relevance which the notice media selection section 360 shows is notified (steps 220 and 320).

[0044] Next, the trouble ticket 510 is immediately created to the help desk system 500 from the trouble ticket reissue-of-vouchers section 410 of the notified client 400 (step 230). Next, the actuation which reissues the trouble ticket 510 from notice processing in case the notice media chosen from the notice media selection section 360 are telephones, and the notice place telephone 450 is explained.

[0045] Drawing 8 is the flow chart of actuation in case the notice media as which one example of this invention was chosen are telephones. First, when the notice media chosen from the notice media selection section 360 are telephones, the language selection section 350 chooses the failure information of the failure information storage sections 340 and 345 of corresponding language, and makes synthesized speech creation preparations (steps 410 and 510).

[0046] Next, the synthesized speech creation section 375 creates the synthesized speech of each language (Japanese or English) based on the failure information of the selected language (steps 420 and 520). Next, the telephone control section 380 telephones the telephone number which the notice media selection section 360 chose (steps 430 and 530).

If there is a response of a destination side, the synthesized speech created in each language which shows a failure situation will be read out (steps 450 and 550). Moreover, when there is no response of a destination side, the notice media selection section 370 makes the preparations which telephone the man of the next sequence of the list to telephone (step 440), and repeats processing of step 430 or step 530.

[0047] The telephone control section 380 creates the trouble ticket 510 to the help desk system 500 by the trouble ticket creation section 390 immediately by actuation from the telephone 450 with the notice of failure (step 460). As mentioned above, if NMS200 detects failure, the uni-FAIDO message system server 300 will create the failure detailed information which added User Information, the configuration information of the network 100 for a monitor, etc. based on alarm information from NMS200, will choose it from various notice media according to a maintenance man's situation, and will ensure the notice of failure. Moreover, a prompt failure action is immediately attained from the notified notice media by the ability of a trouble ticket to be reissued to the help desk system 500.

[0048] In addition, although failure information is made into Japanese and English in the above-mentioned example, it is good in various language, without being limited to this example. Moreover, in the notice of failure by the telephone, when there is a maintenance man for example, outside office, that what is necessary is just to register that telephone number into the User Information storage section 310 beforehand, this telephone number can be set as arbitration and also makes a change a possible thing.

[0049] Moreover, although the above-mentioned example is explained based on the configuration of drawing 3, in case the component of a server 300 and client 400 grade is built as a program, it stores in portable storages, such as a disk unit connected to the computer used as a server 300 or a client 400, and a floppy disk, CD-ROM, and this invention is carried out, this invention can be easily realized by installing and performing.

[0050] In addition, modification and application are variously possible for this invention within the limits of an application for patent, without being limited to the above-mentioned example.

[0051]

[Effect of the Invention] As mentioned above, according to the uni-FAIDO message system of this invention, the notice of failure of the network where the maintenance man of the small number also becomes a candidate for a monitor



certainly with various notice media and two or more language can be performed. Especially in the notice of failure to a telephone, the synthesized speech which shows the contents of failure is created, and it reads it out through a telephone. Furthermore, the maintenance man who received the notice of failure can create a trouble ticket to a help desk system immediately through various notice media.

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[Translation done.]

## \* NOTICES \*

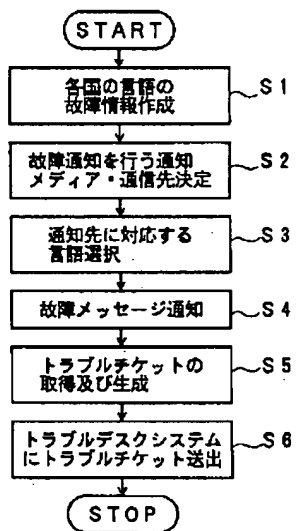
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- 3.In the drawings, any words are not translated.

## DRAWINGS

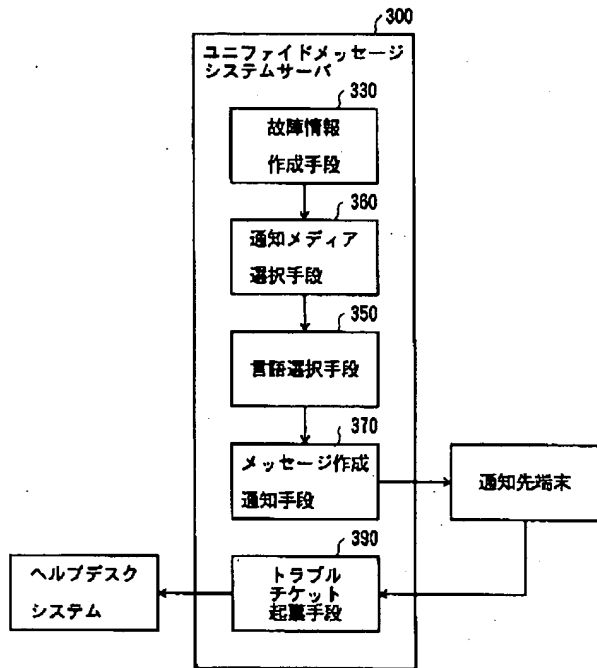
[Drawing 1]

本発明の原理を説明するための図



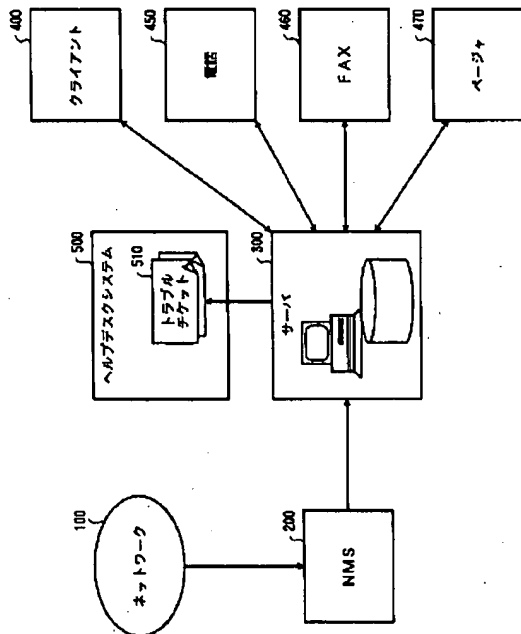
[Drawing 2]

本発明の原理構成図



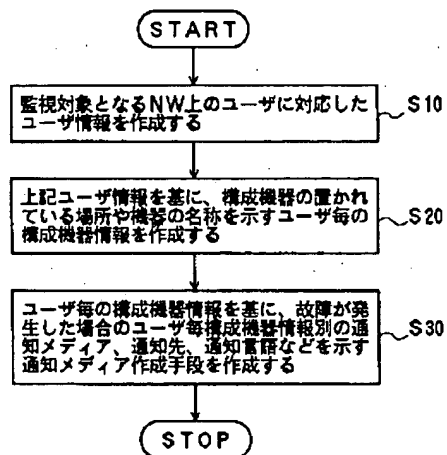
[Drawing 3]

本発明のユニファイドメッセージシステムの概要を示す図



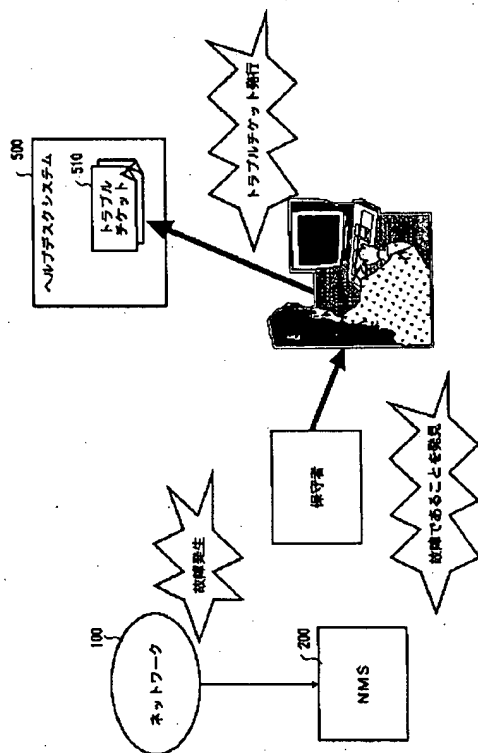
[Drawing 5]

本発明の一実施例の監視対象ネットワークにおける  
ユーザ情報や構成機器情報を設定する動作のフローチャート



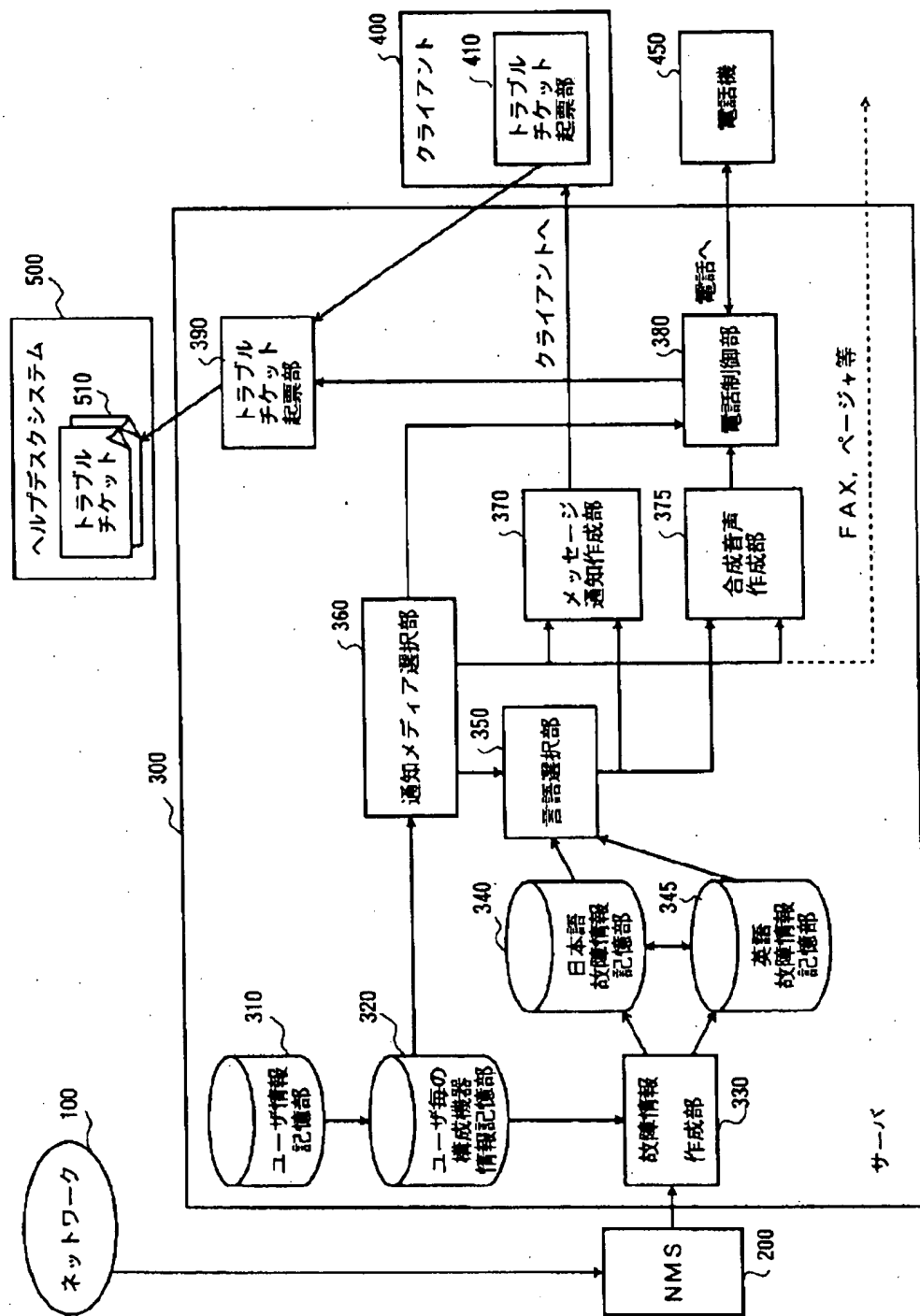
[Drawing 9]

従来技術におけるNMSと保守者の関係を示す図



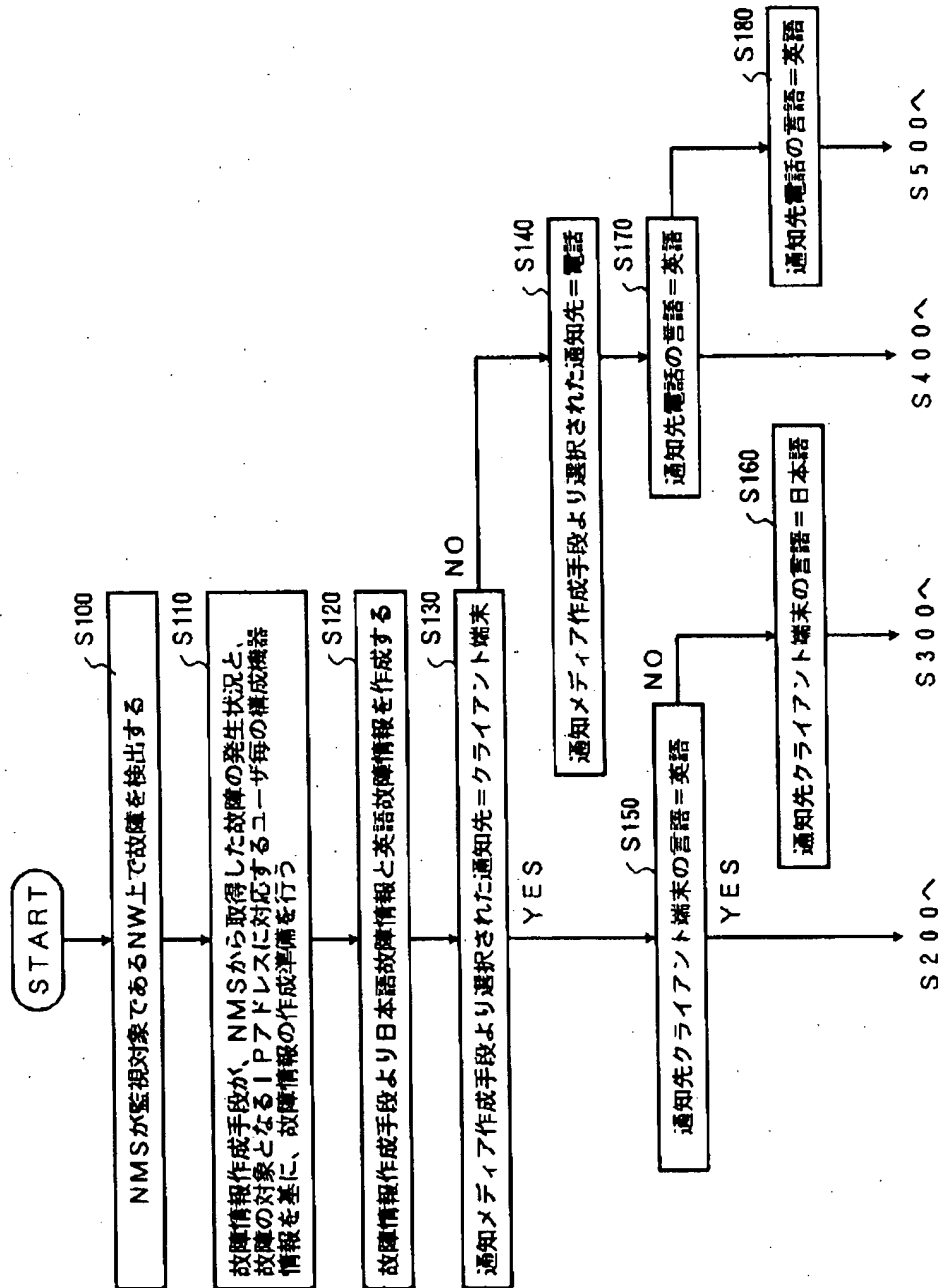
[Drawing 4]

## 本発明のユニファイドメッセージシステムの構成図



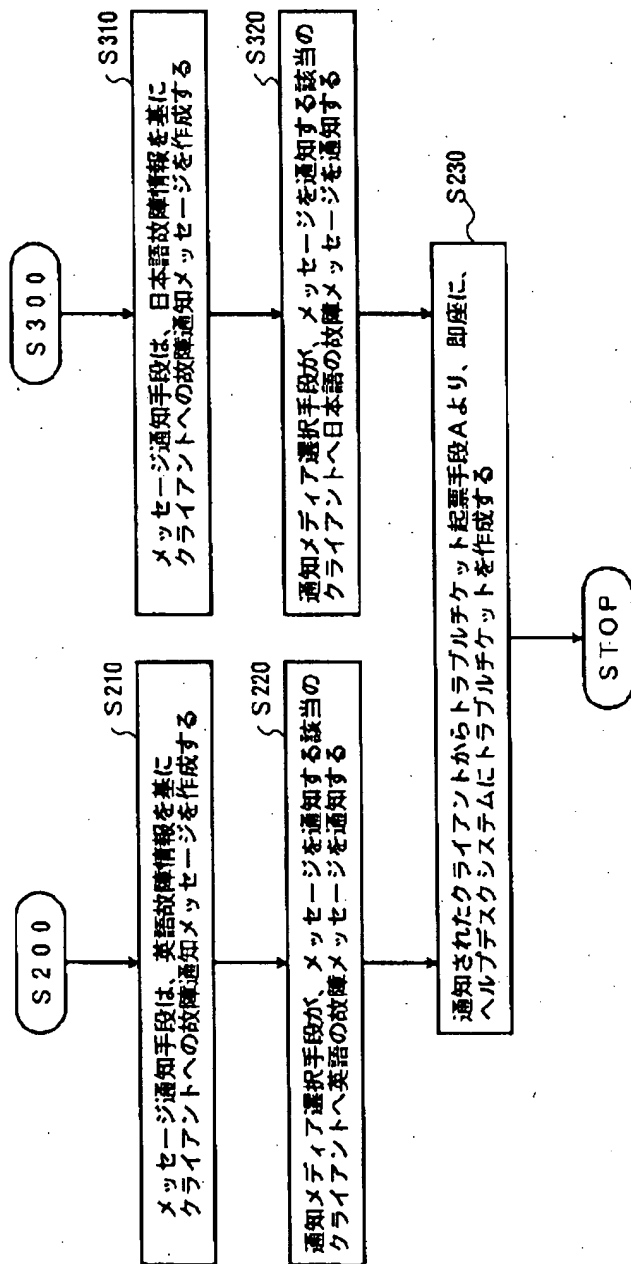
[Drawing 6]

本発明の一実施例の故障通知の通知メディアと  
通知言語が選択されるまでの動作のフローチャート



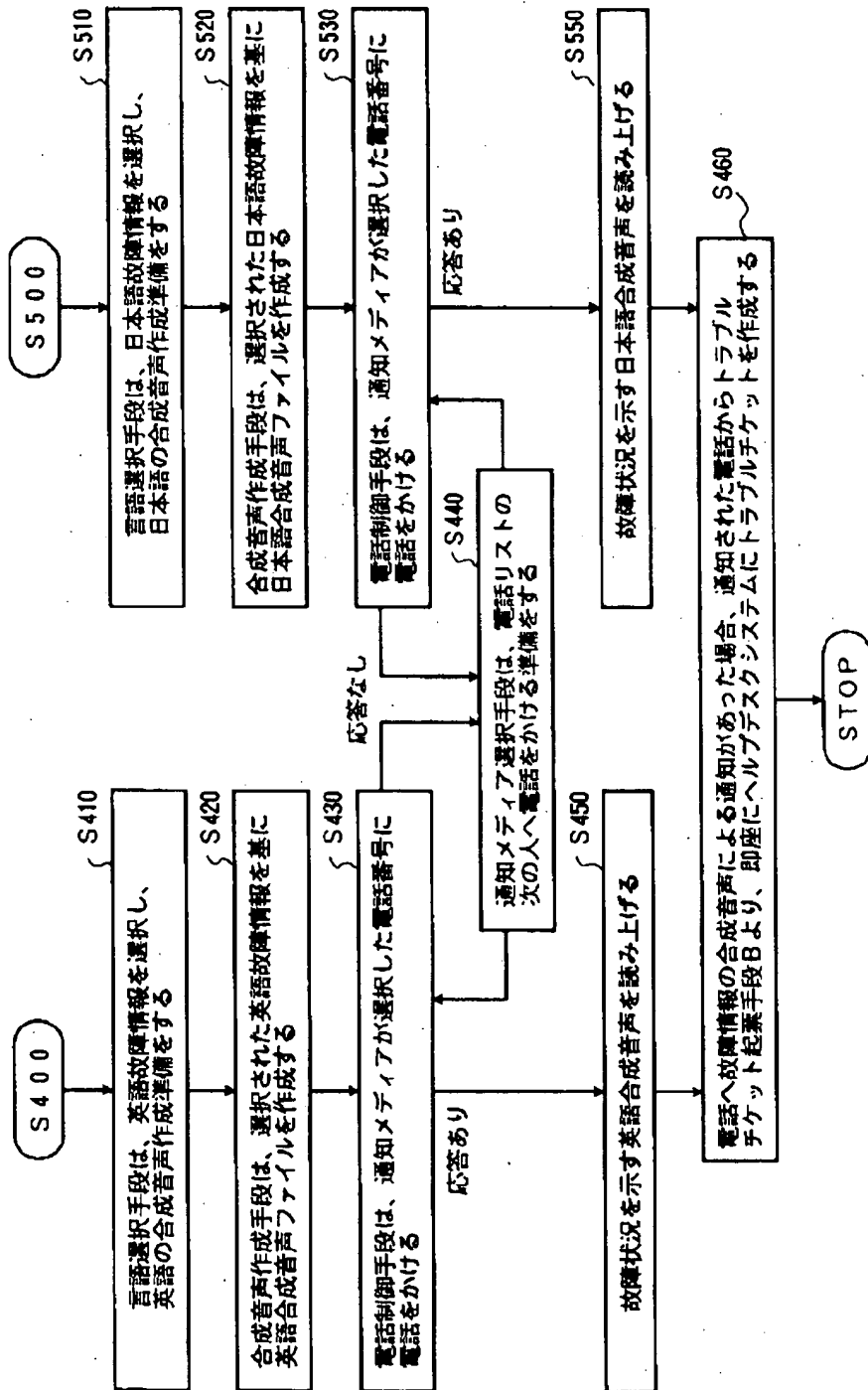
[Drawing 7]

本発明の一実施例の通知メディア選択部より選択された  
通知メディアがクライアントである場合の動作のフローチャート



[Drawing 8]

本発明の一実施例の選択された通知メディアが  
電話である場合の動作のフローチャート



[Translation done.]